

Abstract

A coating for a biomedical device is disclosed, including a metal layer and/or a ceramic layer, such as a layer of titanium (Ti) and a layer of titanium-nitride (TiN). The coating can form a coping for a crown for a tooth, the crown including a porcelain layer bonded to the titanium-nitride (TiN) layer. Methods for making and using a biomedical device are also disclosed, including vapor deposition of metal and/or ceramic layers, such as titanium (Ti) and titanium-nitride (TiN) layers. In one embodiment, the method includes forming a titanium (Ti) vapor that solidifies to form a titanium (Ti) layer; forming a titanium-nitride (TiN) vapor that coats the titanium (Ti) layer with a titanium-nitride (TiN) layer; and forming a porcelain layer on the titanium-nitride (TiN) layer. The porcelain can be sintered to form a dental crown or other device.